

Infrared Spectromicroscopy Technology Identifies Bacteria That Eat Toxic Waste

Chemical and biological mechanisms had been suggested to explain the transformation of hexavalent chromium, a toxic industrial discharge, into a less dangerous trivalent form. Now scientists at the

Lawrence Berkeley National Laboratory in Berkeley, Calif., have used Fourier transform IR spectromicroscopy to identify the reduction agent as *Arthrobacter oxydans*. This bacterium, which

inhabits basalt, could help clean waste sites.

The lab's Advanced Light Source provided the light for the study, which monitored hexavalent chromium in the presence and absence of the bacteria.

The researchers noted that the synchrotron's light is 200 times brighter at a 10- μ m resolution than conventional sources, allowing them to examine the samples at low concentrations and in real time.